

--3. (Amended) The semiconductor device according to claim 1, wherein said active layer, first and second cladding layers and saturable absorbing layer comprise AlGaInP alloy materials; and

said saturable absorbing layer further comprises N.

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and
--4. (Amended) The semiconductor device according to claim 1, wherein said saturable absorbing layer comprises an AlGaInNP alloy material.

--5. (Amended) The semiconductor device according to claim 1, wherein said cladding layer comprises AlGaInP and wherein an AlGaInP intermediate layer is interposed between said cladding layer and said saturable absorbing layer, said intermediate layer containing less Al than said cladding layer and no N.

--19. (New) A semiconductor device comprising:

a semiconductor substrate of a first conductivity type;

a first cladding layer of said first conductivity type formed on said semiconductor substrate;

an active layer formed on said first cladding layer;

a second cladding layer of a second conductivity type formed on said active layer; and

a saturable absorbing layer formed on at least portions of at least one of said first cladding layer and said second cladding layer,

wherein said saturable absorbing layer is formed to have a band gap energy either approximately the same as, or slightly smaller than, said active layer, and also to be doped with N

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in an amount sufficient to form a localized level.

--20. (New) A semiconductor device comprising:

a semiconductor substrate of a first conductivity type;

a first cladding layer of said first conductivity type formed on said semiconductor substrate;

an active layer formed on said first cladding layer;

a second cladding layer of a second conductivity type formed on said active layer; and

a saturable absorbing layer formed on at least portions of at least one of said first cladding layer and said second cladding layer,

wherein said saturable absorbing layer is a mixed crystal of N with another group-V element such that an N content is in a specific range corresponding to a band gap narrower than a band gap of a mixed crystal that does not include N; and

said saturable absorbing layer is formed to have a band gap energy either approximately the same as, or slightly smaller than, said active layer.

--21. (New) The semiconductor device according to claim 1, wherein an intermediate layer is interposed between said saturable absorbing layer and said one of said first cladding layer and said second cladding layer;

said first cladding layer, said second cladding layer, and said intermediate layer comprise one or more group-V elements selected from a group consisting of As, P, and Sb; and

said first cladding layer, said second cladding layer, and said intermediate layer do not substantially include N.